August 15, 1981

REVISION 1
TO
KWM-380 SERVICE BULLETIN NO 10

Attached is a revised issue of KWM-380 Service Bulletin No 10 titled "Extend KWM-380 Frequency Coverage" dated 25 June 1981.

In the original service bulletin 10, the frequency coverage in table 1 for the 16-metre band is given as 18.068 to 18.168 MHz with SB 10 installed. This revision changes the 16-metre coverage to 18.060 to 18.170 MHz.

A black bar in the margin indicates the location of the change. This revised issue replaces the entire original publication.

Rockwell-Collins | SERVICE BULLETIN

Collins Telecommunications Products Division/Rockwell International

KWM-380 TRANSCEIVER (622-5093-001)
CONTROL CARD A8 (638-6929-001)

SERVICE BULLETIN NO 10

EXTEND KWM-380 FREQUENCY COVERAGE

This service bulletin applies to KWM-380 (622-5093-001) units with serial numbers 2099 and below.

Production cut-in is serial number 2100.

The price of the modification kit, Collins part number 642-2435-001, is $79.00 which includes installation by an authorized service agency. Customers who want this modification installed should contact their dealer and reference KWM-380 Service Bulletin No 10.

The current KWM-380 Transceiver is limited in transmit operation within the pre-WARC-79 amateur bands. Installation of this service bulletin will allow transmit operation on three new WARC bands and expand the 80 through 15 meter bands to include MARS frequencies. It will provide proper switching points for the low-pass filter assembly and maintain the protection circuits via the transmit inhibit line that prevents relay damage due to hot switching. Receiver operation is unaffected. The three new WARC bands are 10.10 to 10.15 MHz, 18.068 to 18.168 MHz, and 24.890 to 24.990 MHz. The following table lists the KWM-380 frequency band coverage without and with Service Bulletin No 10 installed.

Table 1. KWM-380 Frequency Band Coverage

BAND	WITHOUT SB 10	WITH SB 10
160 metres	1.8 to 2.0 MHz	No change
80 metres	3.5 to 4.0 MHz	3.25 to 4.25 MHz
40 metres	7.0 to 7.3 MHz	6.75 to 7.55 MHz
30 metres	-----	10.10 to 10.15 MHz
20 metres	14.0 to 14.35 MHz	13.75 to 14.60 MHz
16 metres	-----	18.060 to 18.170 MHz
15 metres	21.00 to 21.45 MHz	20.75 to 21.70 MHz
12 metres	-----	24.890 to 24.990 MHz
10 metres	28.0 to 29.7 MHz	No change

This modification consists of replacing one ROM on control card A8. Installation of the new ROM will provide 11 frequency memories. These can be addressed with the optional AC-3803 Control Interface Kit and a key pad. The memory locations are two-digit entries: 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10.

Special tools required are a 25-watt soldering iron and a solder removal tool such as a solder sucker or solder wick.

This service bulletin references the KWM-380 Transceiver Service Manual, Collins part number 523-0769878.

MODIFICATION PROCEDURE

A. Turn off all power to the transceiver.

B. Remove the dust cover after removing the four screws adjacent to the four feet on the bottom of the transceiver.

C. Remove all screws, flat washers, and lockwashers from the card cage cover and remove the cover. Note the three larger diameter (and shorter screw length) screws removed from the synthesizer assembly. These screws must be used in the same location when the cover is reassembled. Longer screws may damage the synthesizer.

D. Refer to the KWM-380 service manual overall unit section, figure 7, item 6, for location of control card A8.

CAUTION: THERE ARE NINE CONNECTORS ON CONTROL CARD A8. USE CAUTION WHEN REMOVING THE CARD TO PREVENT DAMAGE TO CONNECTORS AND PLUGS.

CONTROL CARD A8 CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. PROTECTIVE CARRIERS FOR ESDS DEVICES SHOULD BE PLACED ON GROUNDED CONDUCTIVE WORK STATION SURFACES. THIS PERMITS THE DISSIPATION OF ANY STATIC CHARGE PRIOR TO REMOVAL, TRANSFER, OR INSERTION OF ANY ESDS DEVICE INTO A SUBASSEMBLY.

E. Carefully remove control card A8 from the card cage while removing the plugs from connectors J1 through J9.

F. Place A8 on a grounded conductive work surface.

G. In the back of the KWM-380 service manual, refer to control card A8 instructions, CPN 523-0770685, figure 5, for location of ROM A8U17.

NOTE: There are two configurations of control card A8. One configuration has a socket for integrated circuit U17 and the other configuration has a soldered-in integrated circuit. Step H applies to a card with a socket. Steps I through S apply to a card with a soldered-in integrated circuit.

H. Using a small flat blade screwdriver, lift each end of A8U17 in small increments until it is loose from the socket. Proceed to step T and continue.

I. Note the position, lead conformation, and physical alignment of A8U17. Observe the position of the orientation tab. Determine pads and thru holes used for mounting.

J. Using small diagonal cutters, clip the leads on A8U17 connected to the circuit card. Remove A8U17.

> CAUTION: DO NOT APPLY HEAT AT A PAD OR THRU HOLE FOR LONGER THAN 5 SECONDS. A 25-WATT GROUNDED-TIP SOLDERING IRON IS REQUIRED.

K. Use needle-nose pliers and soldering iron to remove a lead from the card.

L. Allow circuit card to cool before applying heat to a thru hole in the same area. Repeat the procedure for each lead.

M. When all leads have been removed, reheat each thru hole. When the solder is melted, use a solder wick or a solder sucker to remove excess solder. Allow the circuit card to cool before reapplying heat in the same area. Repeat the procedure as required until each thru hole is clean, indicated by absence of solder from walls, top, or bottom.

N. Using a small brush or the tip of a pipe cleaner dipped in solvent (alcohol, Freon, or equivalent), carefully clean both sides of the circuit card in the mounting area. Clean mounting thru holes and pads.

O. Refer to the control card A8 instructions, figure 5, for tab orientation and install the ROM socket into the proper thru holes.

P. Using solder sparingly, solder one lead on the side opposite to the socket. Ensure that socket did not shift position during soldering.

Q. Solder all remaining leads taking care not to apply heat at a thru hole for more than 5 seconds.

R. Carefully inspect all new solder joints for evidence of poor connections, cold or excess solder, or a short circuit. Solder should completely fill hole without excess.

S. Using a small brush or the tip of a pipe cleaner dipped in solvent (alcohol, Freon, or equivalent), thoroughly clean all new solder joints. Ensure all flux is removed. Solder joints should appear clean, smooth, and bright.

T. While still in its protective carrier, carefully bend the leads of the new ROM to fit freely into the socket.

U. Carefully remove the ROM from its protective carrier holding it by the two ends with no contacts.

V. Observing correct tab orientation, insert new ROM into the socket.

W. Carefully insert control card A8 into the card cage while connecting plugs to J1 through J9. Be <u>certain</u> all plugs are connected properly.

X. Temporarily secure card cage cover with three or four screws.

Y. Plug radio in, turn on, and check transmitter for proper operation into a dummy load. The radio should now transmit on all frequencies listed in table 1.

   <u>NOTE</u>: Proper authorization is necessary to operate a transmitter into other than a dummy load.

Z. Install card cage cover using the 39 screws removed in step C.

AA. Reinstall the dust cover and secure with the four screws removed in step B.

AB. Mark SB 10 on the service bulletin information chart. If the transceiver does not have an information chart, install a chart near the nameplate.

MATERIAL INFORMATION

The modification kit listed below is required to modify one KWM-380.

COLLINS PART NUMBER	QTY	UNIT PRICE	DESCRIPTION
642-2435-001	1	$79.00	Kit, modification